

# Notice of Allowability

Application No.

10/050,038

Examiner

Sow-Fun Hon

Applicant(s)

FUKUOKA ET AL.

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the interview dated 11/24/04.
2. ☒ The allowed claim(s) is/are 1 and 2.
3. ☒ The drawings filed on 17 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/24/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Christophe Lair on November 24, 2004.

The application has been amended as follows:

2. Claim 1:
  - a. Delete Line 7 "first and second alignment films formed on said pixel electrodes ... and said common", and substitute with - - first and second polyimide alignment films formed on said pixel electrodes and said common - -;
  - b. Delete Lines 9-14 "said first and second alignment films having surface energy ... liquid crystal component" with  
- - said first and second polyimide alignment films which have a surface energy of no less than 51 dyn/cm to prevent an image-sticking phenomenon caused by said liquid crystal composition and impurities contained in said resin layer of said circuit array substrate through said first and second polyimide alignment films, and a surface energy of no more than 60 dyn/cm to prevent white or black turbid spots caused by impurities contained in said liquid crystal component. - -.
3. The following is an examiner's statement of reasons for allowance:

The closest prior art of record, US 5,629,056, even in combination with US 4,593,977, fails to teach or suggest a liquid crystal display element comprising a circuit array substrate

Art Unit: 1772

having pixel electrodes and a resin layer interposed therebetween; a counter substrate having a common electrode; a liquid crystal composition charged in a gap between said circuit array substrate and said counter substrate; wherein it is critical that the first and second polyimide alignment films have a surface energy of no less than 51 dyn/cm to prevent an image-sticking phenomenon caused by said liquid crystal composition and impurities contained in said resin layer of said circuit array substrate through said first and second polyimide alignment films, and a surface energy of no more than 60 dyn/cm to prevent white or black turbid spots caused by impurities contained in said liquid crystal component. See Applicant's arguments in the remarks dated 09/29/04.

Applicant has provided a persuasive showing of criticality for the narrower surface energy range of 51 dyn/cm to 60 dyn/cm. See Applicant's specification, the results summarized in Figure 1 of Applicant as shown below.

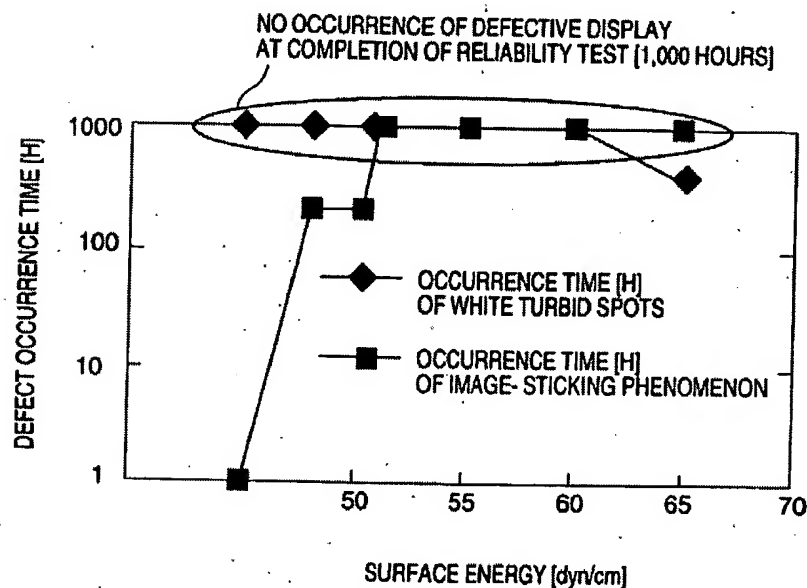


FIG. 1

Art Unit: 1772

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

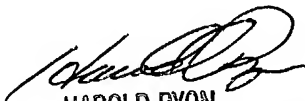
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

Sow-Fun Hon

12/7/04

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

12/8/04